

What is claimed is:

1 1. A method of automatically refreshing previously recorded data on a
2 recordable storage medium during playback of the previously recorded data from the
3 recordable storage medium comprising the steps of:
4 reading a segment of the previously recorded data from the recordable
5 storage medium; and,
6 re-writing at least a portion of the segment of the previously recorded data
7 back onto the recordable storage medium.

1 2. The method according to claim 1, wherein the previously recorded data is
2 refreshed within a data retention period.

1 3. The method according to claim 1, wherein the portion of the segment of
2 the previously recorded data that is re-written to the recordable storage medium
3 corresponds to the segment of the previously recorded data that was read from the
4 recordable storage medium.

1 4. The method according to claim 3, wherein the segment of recorded data
2 read from the recordable storage medium and the portion of the segment of the
3 recorded data that is re-written onto the recordable storage medium is at least one error
4 correction coding (ECC) block.

1 5. The method according to claim 1, wherein the data previously recorded
2 onto the recordable storage medium produces a maximum bitstream rate during the
3 playback of the previously recorded data and the combined rate of said reading and said
4 re-writing steps is at least twice that of the maximum bitstream rate.

1 6. The method according to claim 5, wherein the rate of said reading step is
2 substantially equal to the rate of said re-writing step.

1 7. The method according to claim 1, wherein said reading step further
2 comprises the step of reading the segment of the previously recorded data from the
3 recordable storage medium at an original location and said re-writing step further
4 comprises the step of re-writing at least a portion of the segment of the previously
5 recorded data back onto the recordable storage medium at the original location.

1 8. The method according to claim 7, wherein the portion of the segment of
2 the previously recorded data re-written back onto the recordable storage medium is re-
3 written at a new location on the recordable storage medium.

1 9. The method according to claim 1, further comprising the step of providing
2 a recordable storage medium device to perform said reading and re-writing steps,
3 wherein said reading and re-writing steps are performed while the recordable storage
4 medium device is not in a user initiated mode.

1 10. The method according to claim 1, further comprising the step of selectively
2 examining the segment of the previously recorded data by searching for errors in the
3 segment of previously recorded data, wherein said re-writing step is performed only if
4 the level of errors in the segment of previously recorded data reaches a predetermined
5 level.

1 11. A method of automatically refreshing data recorded on a recordable
2 storage medium during playback of the recorded data comprising the steps of:
3 creating a file directory for listing when at least one segment of the data
4 was recorded on the recordable storage medium;
5 reading the segment of the recorded data from the recordable storage
6 medium; and,
7 when said reading step occurs after a predetermined elapsed time from
8 said creating step re-writing at least a portion of the segment of the recorded data on the
9 recordable storage medium.

1 12. The method according to claim 11, wherein the predetermined elapsed
2 time occurs within a data retention period.

1 13. A method of automatically refreshing data recorded onto a recordable
2 storage medium during playback of the recorded data comprising the steps of:

3 reading a segment of the previously recorded data from the recordable
4 storage medium;

5 jumping back to re-read the segment if the number of errors in the
6 segment reaches a first predetermined level; and,

7 re-writing at least a portion of the segment of the previously recorded data
8 back onto the recordable storage medium if the number of jump-backs reaches a
9 second predetermined number.

1 14. A system for automatically refreshing previously recorded data on a
2 recordable storage medium during playback of the previously recorded data from the
3 recordable storage medium comprising:

4 a microprocessor; and

5 a controller, wherein the controller:

6 reads a segment of the previously recorded data from the
7 recordable storage medium; and,

8 re-writes at least a portion of the segment of the previously
9 recorded data back onto the recordable storage medium, as instructed by the
10 microprocessor.

1 15. The system according to claim 14, wherein the previously recorded data is
2 refreshed within a data retention period.

1 16. The system according to claim 14, wherein the portion of the segment of
2 the previously recorded data that is re-written to the recordable storage medium by the
3 controller corresponds to the segment of the previously recorded data that was read
4 from the recordable storage medium by the controller.

1 17. The system according to claim 16, wherein the segment of recorded data
2 read from the recordable storage medium by the controller and the portion of the
3 segment of the recorded data that is re-written onto the recordable storage medium by
4 the controller is at least one ECC block.

1 18. The system according to claim 14, wherein the data previously recorded
2 onto the recordable storage medium by the controller produces a maximum bitstream
3 rate as the controller reads the previously recorded data during playback of the
4 previously recorded data and the combined rate of the reading and the re-writing steps
5 is at least twice that of the maximum bitstream rate.

1 19. The system according to 18, wherein the rate of the reading step is
2 substantially equal to the rate of the re-writing step.

1 20. The system according to claim 14, wherein the controller further reads the
2 segment of the previously recorded data from the recordable storage medium at an
3 original location and re-writes at least a portion of the segment of the previously
4 recorded data back onto the recordable storage medium at the original location.

1 21. The system according to claim 20, wherein the portion of the segment of
2 the previously recorded data re-written back onto the recordable storage medium by the
3 controller is re-written at a new location on the recordable storage medium by the
4 controller.

1 22. The system according to claim 14, wherein the controller and the
2 microprocessor are contained within a recordable storage medium device and the
3 controller performs the reading and re-writing steps while the recordable storage
4 medium device is not in a user initiated mode.

1 23. The system according to claim 14, wherein the controller selectively
2 examines the segment of the previously recorded data by searching for errors in the
3 segment of previously recorded data, wherein the microprocessor instructs the controller
4 to perform the re-writing step only if the level of errors in the segment of previously
5 recorded data reaches a predetermined level.

1 24. A system for automatically refreshing data recorded onto a recordable
2 storage medium during playback of the recorded data comprising:

3 a microprocessor for creating a file directory listing a creation date of at
4 least one segment of the data recorded onto the recordable storage medium;

5 a controller, wherein the controller:
6 reads the segment of the recorded data from the recordable
7 storage medium; and

8 re-writes at least a portion of the segment of the recorded data onto
9 the recordable storage medium, responsive to the microprocessor, wherein said reading
10 and re-writing steps occur at a predetermined time within a data retention period relative
11 to the creation date stored in the file directory.

1 25. A system for automatically refreshing data recorded onto a recordable
2 storage medium during playback of the recorded data, comprising:

3 a microprocessor; and

4 a controller, wherein the controller:

5 reads a segment of the previously recorded data from the
6 recordable storage medium; and responsive to a number of errors in the segment
7 reaching a first predetermined number causes a jump back to re-read the segment; and,

8 responsive to a number of jump-backs equaling a second
9 predetermined number the microprocessor initiates a re-write of at least a portion of the
10 segment of the previously recorded data onto the recordable storage medium.

1 26. A method of automatically refreshing data recorded on a plurality of
2 recordable storage media comprising the steps of:
3 selecting one of said recordable storage media;
4 reading a file directory with information representative of a record creation
5 date for at least one segment of the data recorded on said selected recordable storage
6 medium;
7 re-writing at least a portion of the segment of the recorded data on the
8 recordable storage medium if a predetermined time has elapsed from said record
9 creation date represented by said information within said file directory; and,
10 repeating said selecting reading and rewriting steps for remaining ones of
11 said plurality of recordable storage media.

1 27. A method of claim 26, comprising a further step of:
2 repeating said selecting reading rewriting and repeating steps
3 periodically.